University of Engineering & Management, Kolkata
Course: B.Tech (CSE / CSE(AIML) / CSE(IOT-CYS-BCT)
Semester: 3rd
Paper Name: Data Structure & Algorithm Laboratory
Paper Code: PCC - CS391

Assignment – I

(All programs to be implemented in C and Python Programming Language)

Topic : Dynamic Array

1. Write a C program to search an element in an Array using dynamic memory allocation.
2. Write a C program to find the 3rd/user defined position based maximum element in an array using dynamic memory allocation.
3. Write a C program to find the minimum element in an array using dynamic memory allocation.
4. Write a C program to search an element in a 2D-Array using dynamic memory allocation.
5. Write a C program to find the maximum element in a 2D-array using dynamic memory allocation.
6. Write a C program to find the minimum element in a 2D-array using dynamic memory allocation.
7. Write a C program to merge two sorted dynamic array.
8. Write a C program to merge two unsorted dynamic array in sorted order.
9. Write a C program to delete a range of data from a dynamic array.
10. Write a C program to modify the size of an array and utilize that during run time.

Assignments for Python
(List, Tuples, Set, Dictionary)
(All programs to be implemented in Python Programming Language)

List:
1. Reverse a list in Python
2. Concatenate two lists index-wise.
3. Turn every item of a list into its square.
4. Add new item to list after a specified item.
5. Remove all occurrences of a specific item from a list.

Tuples:

1. Access value 20 from the tuple.
2. Unpack the tuple into 4 variables.
3. Copy specific elements from one tuple to a new tuple.
4. Counts the number of occurrences of item ‘x’ from a tuple.
5. Check if all items in the tuple are the same.

Set:
1. Add a list of elements to a set.
2. Get Only unique items from two sets.
3. Remove items from the set at once.
4. Return a set of elements present in Set A or B, but not both.
5. Check if two sets have any elements in common. If yes, display the common elements.

Dictionary:
1. Convert two lists into a dictionary.
2. Merge two Python dictionaries into one.
3. Create a dictionary by extracting the keys from a given dictionary.
4. Delete a list of keys from a dictionary.
5. Check if a value exists in a dictionary.